

Applicants respectfully traverse this objection. In the November 18, 2003 Office Action, the Examiner noted the flow rate discrepancies in the specification with respect to Figure 1C. In the February 18, 2004 Amendment, Applicants amended the specification to conform to the drawing, agreeing with the Examiner and explaining the administrative error in the specification. Applicants also amended Figure 1C to more clearly define the flow rate. This drawing amendment was approved in the November 16, 2004 Office Action. As such, the present specification and drawings agree with one another.

With respect to the terms, Applicants note that the term “quite large” is consistent with the use of the term in the original specification, and has not been changed. The term “minimum” in the specification was amended to use the term --small--. Either term would be acceptable with having the same meaning in the context of the specification at paragraph [0017].

Claim Rejections - 35 USC § 103

Claims 1, 4, 5 and 8-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Arpentinier (U.S. Patent No. 5,356,213). The disclosure of Arpentinier is documented throughout the prosecution of the application. In the July 14, 2005 Amendment, claims 1, 4, and 5 were amended to further define a feature of the present invention wherein “a direction of the nozzle inserted within flow of the one fluid is perpendicular to a flowing direction of the one fluid.”

The Examiner states that this newly added feature is disclosed by Arpentinier. More specifically, the Examiner argues that Arpentinier clearly states that the second gas is injected in the flow of the first gas perpendicularly to the direction of the flow of the first gas (citing column

1, lines 44-46). The Examiner states that it clearly indicates the nozzles are also perpendicular to the other gas stream.

Applicants respectfully traverse this rejection. Claims 1, 4, and 5 recite that the direction of the *nozzle* inserted within flow of the first gas is perpendicular to a flowing direction of the first gas. In contrast, Arpentinier at col. 1, lines 44-46 discusses a gas injection direction, and not a nozzle insertion direction. As shown in Figure 1 of Arpentinier, the nozzle/injection head is disposed coaxial to the first flow (see also the Abstract, and col. 2, lines 16-20), which is opposite from the insertion direction of the nozzle of the exemplary embodiment recited in independent claims 1, 4, and 5. Claims 8-10 are allowable at least based on their dependency on claims 1 and 5, as applicable.

Claim 11 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Arpentinier in view of Miyazaki (U.S. Patent No. 6,444,047). Claim 11 recites a pipe arrangement block operable with the fluid mixing apparatus of claim 1. The pipe arrangement block includes a plurality of flow paths, valves, and mixing points for the fluids. Miyazaki is related to a method of cleaning a semiconductor substrate. The Examiner argues that Arpentinier substantially discloses the invention of claim 11, except for the mixing valves and mixing points. Applicants respectfully traverse this rejection based on the lack either Arpentinier or Miyazaki disclosing the fluid mixing apparatus of claim 1 as recited in claim 11, for the reasons above.

Claim 12 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Arpentinier in view of Toms (U.S. Patent No. 3,870,801). Claim 12 recites an exemplary embodiment of the invention where the inner diameter of the nozzle recited in claim 1 is 2 mm or less. Claim 12 is

allowable at least based on its dependency on claim 1. The deficiencies of Arpentinier are not made up for in Toms.

With respect to Toms, Applicants respectfully submit that one of ordinary skill in the art would not look to Toms for disclosure of dimensions of an inner diameter of a nozzle for a fluid mixing apparatus. A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem. *See Wang Laboratories Inc. v. Toshiba Corp.*, 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir. 1993). In this case, however, Toms is related to extracting protein from plants and preparing the plant protein in the form of a mesophase (see col. 2, lines 38-39), and not particularly to mixing fluids. While the use of a 2 mm diameter nozzle is disclosed at col. 16, lines 54-57, there is no disclosure or discussion of the relevancy of the 2 mm diameter nozzle in conjunction with pumping the mesophase into water as discussed in this section of Toms.

Along the same lines, the Examiner provides no motivation for including a 2 mm diameter nozzle in the Arpentinier device. Applicants respectfully remind the Examiner that the USPTO is held to a rigorous standard when trying to show that an invention would have been obvious in view of the combination of two or more references. *See, In re Sang Su Lee*, 61 USPQ2d 1430 (Fed. Cir. 2002), citing, e.g., *In re Dembiczak*, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) ("Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references."). In *Lee*, the Federal Circuit further emphasized that the "need for specificity pervades this authority." (*Lee* at 1433

(citing *In re Kotzab*, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) (“particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed”)). The factual inquiry into whether to combine references “must be based on objective evidence of record.” *Lee* at 1433. In this case, the Examiner has pointed to no teaching or motivation to combine the references, but has simply stated that the combination of references “could be provided in order to mix the fluids.” This analysis and conclusion, however, fall well short of the particular findings required by *Lee*.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

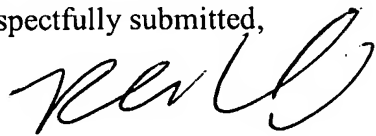
SUGHRUE MION, PLLC  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

Respectfully submitted,



Ronald Kimble  
Registration No. 44,186

Date: December 2, 2005